

December 17, 2002

Mr. Dale Flannery
South Side Hoosier Pete
220 East Centennial
Muncie, Indiana 47303

Re: Registered Construction and Operation Status,
035-16677-00069

Dear Mr. Flannery:

The application from South Side Hoosier Pete, received on October 18, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1, it has been determined that the following soil and water remediation systems, to be located at 1401 East 29th Street, Muncie, Indiana, is classified as registered:

- (a) Soil vapor extraction (SVE) system, capable of extracting air at a total rate of 3, 800 actual cubic feet per minute (acfm). The VOC emissions from the SVE system will be controlled by one (1) Catalytic Oxidizer.
- (b) One (1) Air Stripping system for groundwater remediation, with a maximum ground water flow rate of 20 gallons per minute (gpm) and a maximum air flow rate of 210 actual cubic feet per minute (acfm).

The following conditions shall be applicable:

1. Volatile Organic Compounds
Any change or modification that may increase the potential VOC emissions to 25 tons per year or greater from these facilities shall be approved by the Office of Air Quality (OAQ) before such change may occur.
2. Hazardous Air Pollutants
Any change or modification that may increase the PTE from single HAP to 10 tons per year or greater; or combined HAPs to 25 tons per year or greater from these facilities shall be approved by the Office of Air Quality (OAQ) before such change may occur.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-51.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3) The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

APD

cc: File - Delaware County
Delaware County Health Department
Air Compliance - Marc Goldman
Permit Tracking
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3)

Company Name:	South Side Hoosier Pete
Address:	1401 East 29th Street
City:	Muncie
Authorized individual:	Dale Flannery
Phone #:	(765) 288-7795
Registration #:	035-16677-00069

I hereby certify that **South Side Hoosier Pete** is still in operation and is in compliance with the requirements of Registration **035-16677-00069**.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration to a New Source

Source Background and Description

Source Name:	South Side Hoosier Pete
Source Location:	1401 East 29 th Street, Muncie, Indiana 47302
County:	Delaware
SIC Code:	2999
Registration No.:	035-16677-00069
Permit Reviewer:	Aida De Guzman

The Office of Air Quality (OAQ) has reviewed an application from South Side Hoosier Pete relating to the construction and operation of the following soil and water remediation systems:

- (a) Soil vapor extraction (SVE) system, capable of extracting air at a total rate of 3, 800 actual cubic feet per minute (acfm). The VOC emissions from the SVE system will be controlled by one (1) Catalytic Oxidizer.
- (b) One (1) Air Stripping system for groundwater remediation, with a maximum ground water flow rate of 20 gallons per minute (gpm) and a maximum air flow rate of 210 actual cubic feet per minute (acfm).

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 18, 2002 with additional information received via e-mail on November 1, 2002.

Emission Calculations

- (a) Soil Vapor Extraction and Air Stripping Systems: See Page 1 of 2 TSD Appendix A for detailed calculations.
- (b) Catalytic Oxidizer Combustion: See Page 2 of 2 TSD Appendix A for detailed calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM-10	0.0
SO ₂	0.0
VOC	11.068
CO	0.0
NO _x	0.3

HAP's	Potential To Emit (tons/year)
Benzene	0.747
Toluene	0.108
2,2,4-Trimethylpentane	5.175
Ethyl Benzene	0.109
Xylene	0.253
Hexane	3.292
Worst Single HAP	5.175
Combined HAPs	9.683

Justification for the Approval

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of volatile organic compounds (VOC) are at levels greater than 10 tons per year, but less than 25 tons per year. Therefore, the source will be registered, pursuant to 326 IAC 2-5.1-2.

County Attainment Status

The source is located in Delaware County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	not determined

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Delaware County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Delaware County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.0
PM10	0.0
SO ₂	0.0
VOC	1.129
CO	0.0
NO _x	0.3
Single HAP	0.518
Combination HAPs	0.968

- (a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

- (a) 326 IAC 2-7 (Part 70 Permit Program)
This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:
- (1) each criteria pollutant is less than 100 tons per year,
 - (2) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
 - (3) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

- (a) 326 IAC 2-6 (Emission Reporting)
This source is **not** subject to 326 IAC 2-6, because it is not located in one of the counties listed in the rule although it emits greater than 10 tons of VOC per year; and its potential to emit VOC is less than 100 tons per year.

State Rule Applicability - Individual Facilities

- (a) 326 IAC 8 (Volatile Organic Sources)
There are no provisions under Article 8 that will apply to this soil vapor extraction source, because it does not fit to any of the source categories in the rule.
- (b) 326 IAC 8-1-6 (General Reduction Requirements)
This rule applies to new facility as of January 1, 1980 which have potential VOC

emission of 25 tons per year. The soil and water remediation source is **not** subject to this rule because its VOC potential emission is less than 25 tons per year.

- (c) 326 IAC 2-4.1-1 (New Source Toxics Control)
This rule applies to sources who construct or reconstructs a major source of hazardous air pollutants after July 27, 1997. This rule is **not** applicable to this source, because it is not a major for hazardous air pollutants (HAPs).

Conclusion

The construction and operation of this soil and water remediation systems shall be subject to the conditions of the attached **Registration 035-16677-00069**.

Company Name: South Side Hoosier Pete
Address City IN Zip: 1401 E. 29th St., Muncie, Indiana 47302
Registration No.: 035-16677
Pit ID No.: 035-00074
Reviewer: Aida De Guzman
Date Application Received: October 18, 2002

HAP/VOC	Concentration "(ppm)	Molecular Wt. "(lb/lb-mole)	Air Flow Rate "(scfm)	Uncontrolled HAP/VOC Emissions (tons/year)	Controlled HAP/VOC Emissions (tons/year)
Air Sparging and Soil Vapor Extraction					
Benzene	28.4	78.1	471	0.713	0.071
Toluene	3.1	92.1	471	0.092	0.009
2,2,4-Trimethylpentane	141	114.23	471	5.175	0.517
Ethyl Benzene	2.1	106.2	471	0.072	0.007
Xylene	3.5	106.2	471	0.119	0.012
Heptane *	47	100.2	471	1.513	0.151
"4 Ethyl Toluene *	0.4	120.2	471	0.015	0.002
Timethyl Benzene *	2	120.2	471	0.077	0.008
Hexane	119	86.1	471	3.292	0.329
Sub-Total HAPs Emissions				9.462	0.946
Sub-Total VOC Emissions				11.068	1.107
Air Stripping of Water					
Benzene	3	78.1	210	0.034	0.034
Toluene	1.25	92.1	210	0.016	0.016
Ethyl Benzene	2.4	106.2	210	0.037	0.037
Xylene	8.8	106.2	210	0.134	0.134
Sub-Total VOC/HAPs Emissions				0.220	0.220
Worst Single HAP				5.175	0.518
Combined HAPs				9.683	0.968
TOTAL VOC Emissions				11.288	1.129

Catalytic oxidizer control efficiency = 90%

*A VOC but not a regulated HAP

Methodology:

Emissions, tons/yr = $\frac{\text{ppm} * \text{mol. wt.} * \text{lb/lb-mole} * \text{air flow, acfm} * 60 \text{ min/hr} * 8760 \text{ hrs/yr} * \text{ton}/2000 \text{ lb}}{c = 385,260,000 \text{ cf ft/lb-mole}}$

Air Flow rate conversion to SCFM = $(3800 \text{ acfm} * 3.92 \text{ in Hg} / 29.92 \text{ in. Hg}) * (492 \text{ deg R} / 520 \text{ deg R}) = 471 \text{ scfm}$

Note: *initial condition = 3800 @ 3.92 in. Hg abs. and 60 deg F

**Appendix A: Emission Calculations
LPG-Propane - Industrial Boilers**

Company Name: South Side Hoosier Pete
Address City IN Zip: 1401 E. 29th St., Muncie, Indiana 47302
Registration No.: 035-16677
Plt ID No.: 035-00074
Reviewer: Aida De Guzman
Date Application Received: October 18, 2002

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	SO2 Emission factor = 0.10 x S S = Sulfur Content =
0.33	31.11	0.00 grains/100ft ³
catalytic oxidizer		

Note: The MSDS on the propane shows no sulfur content.

Emission Factor in lb/kgal	Pollutant					
	PM*	PM10*	SO2 (0.10S)	NOx	VOC 0.5 **TOC value	CO
Potential Emission in tons/yr	0.0	0.0	0.0	0.3	0.0	0.0

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

(Source - AP-42 (Supplement B 10/96) page 1.5-1)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (Supplement B 10/96), Table 1.5-1 (SCC #1-02-010-02)

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).